

**REMARKS**

With this amendment, claims 1-11 remain pending in the application. Claim 12 has been withdrawn.

The Applicant has carefully and thoughtfully considered the Office Action and the comments therein. In view of the above amendments and the reasons given below, it is submitted that this application is in condition for allowance.

**Allowable Subject Matter**

On page 2 of the Office Action, the Examiner states that claims 6-11 are allowed over the prior art of record. Applicants thank the Examiner for the allowance of claims 6-11.

On page 3 of the Office Action, the Examiner states that claims 2-5 are objected to as being dependent upon a rejected base claim, but would allow the claims if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants thank the Examiner for the indication of allowable subject matter.

**Rejection under 35 U.S.C. 102(b)**

On page 2, the Office Action rejects claim 1 as being anticipated by U.S. Patent No. 6,285,709 to Alelyunas et al. (hereinafter ‘Alelyunas’). Applicants respectfully traverse this rejection.

Applicants respectfully submit that claim 1 is patentable over Alelyunas for at least the following two reasons.

First, Alelyunas fails to disclose or suggest “a channel identification unit receiving, from a communication channel, a transmitted signal ( $\tilde{r}$ ) and a training control sequence ( $p^{train}$ ) to provide a plurality of channel coefficients representative of said communication channel ( $\hat{h}_1 \dots \hat{h}_k$ ),” as recited in claim 1. Instead, Alelyunas discloses a combined linear equalizer (LE) and adaptive decision feedback equalizer (DFE) in which a joint error signal from the DFE is used to update the filter tap weights  $C_k$  and  $C_j$  for the LE and DFE, respectively. Alelyunas, col. 3, l. 41-55, col. 5, l. 1-14, and Fig. 3. Thus, by using the joint error signal from the DFE as a type of feedback loop, the

Alelyunas allows for the combination of a LE and a DFE and is unrelated to the claimed invention. Alelyunas, therefore, fails to disclose or suggest “a channel identification unit receiving, from a communication channel, a transmitted signal ( $\tilde{r}$ ) and a training control sequence ( $p^{train}$ ) to provide a plurality of channel coefficients representative of said communication channel ( $\hat{h}_1 \dots \hat{h}_k$ ),” as recited in claim 1.

Second, Alelyunas fails to disclose or suggest “a channel modeling unit filtering said plurality of channel coefficients representative of said communication channel ( $\hat{h}_1 \dots \hat{h}_k$ ) with a known training data sequence (X) to provide said regenerated data sequence (Y),” as recited in claim 1. Instead, Alelyunas discloses a combined linear equalizer (LE) and adaptive decision feedback equalizer (DFE) in which a joint error signal from the DFE is used to update the filter tap weights  $C_k$  and  $C_j$  for the LE and DFE, respectively. Alelyunas, col. 3, l. 41-55, col. 5, l. 1-14, and Fig. 3. Thus, by using the joint error signal from the DFE as a type of feedback loop, the Alelyunas allows for the combination of a LE and a DFE and is unrelated to the claimed invention. Alelyunas, therefore, fails to disclose or suggest “a channel modeling unit filtering said plurality of channel coefficients representative of said communication channel ( $\hat{h}_1 \dots \hat{h}_k$ ) with a known training data sequence (X) to provide said regenerated data sequence (Y),” as recited in claim 1.

**CONCLUSION**

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is hereby invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment is respectfully requested.

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Respectfully submitted,

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